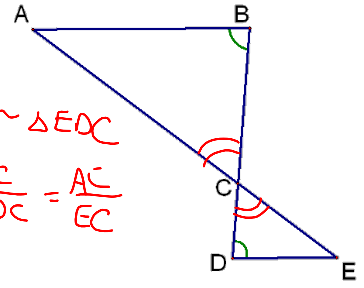
Agenda:
Notes (handout)
Time permitting (go over 6.1-2 ws)

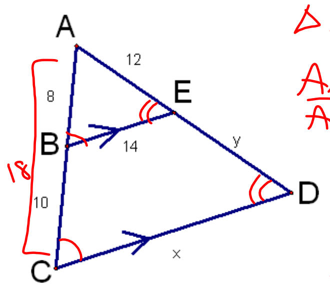
6-3 Similar Triangles

Postulate 6.1—AA~ Postulate—If 2 ∠s of 1 Δ are ≅ to 2 ∠s of another Δ. Then the Δs are similar.



$\triangle ABC \sim \triangle EDC$

$$\frac{AB}{ED} = \frac{BC}{DC} = \frac{AC}{EC}$$



$\triangle ABE \sim \triangle ACD$

$$\frac{AB}{AC} = \frac{BE}{CD} = \frac{AE}{AD}$$

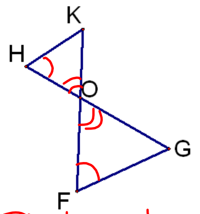
$$\frac{8}{18} = \frac{14}{x} = \frac{12}{12+y} *$$

$$\frac{\cancel{8}\,4}{\cancel{18}\,9} = \frac{14}{x}$$

$x = 31.5$

$$\frac{8}{18} = \frac{12}{12+y}$$

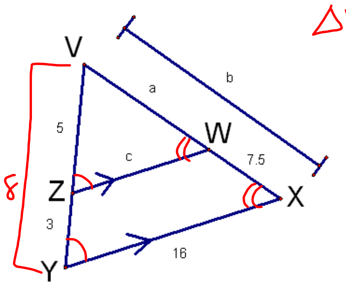
$y = 15$



Given: ∠H ≅ ∠F

Prove: HK· GO = FG · KO

Statements	Reasons
① ∠H ≅ ∠F	① Given
② ∠HOK ≅ ∠GOF	② Vert ∠s ≅
③ ΔHOK ~ ΔFOG	③ AA~
④ $\frac{HK}{FG} = \frac{KO}{GO}$	④ Corr. sides of ~Δs are proportional
⑤ HK·GO = FG·KO	⑤ Cross Multiply



$\triangle VZW \sim \triangle VYX$

$\frac{VZ}{VY} = \frac{ZW}{YX} = \frac{VW}{VX}$

$\frac{5}{8} = \frac{c}{16} = \frac{a}{a+7.5}$

$\frac{5}{8} = \frac{a}{a+7.5}$ $\quad 8a = 5a + 37.5$ $\quad 3a = 37.5$ $\quad a = 12.5$

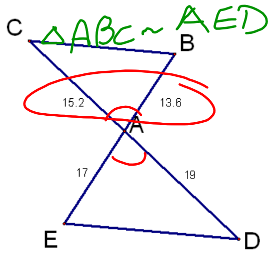
$b = 20$

$c = 10$

Theorem 6.1—SSS~ Theorem—If the measures of the corresponding sides of 2 ∆s are in proportion, then the ∆s are ~.

Theorem 6.2—SAS~ Theorem—If the measures of 2 sides of a ∆ are proportional to the corresponding 2 sides of another ∆, and the included ∠s are ≅, then the ∆s are ~.

$\triangle ABC \sim AED$



Are the triangles similar? yes

small large

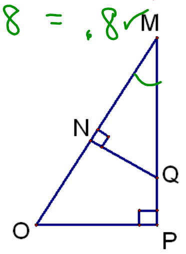
$\frac{13.6}{17} \stackrel{?}{=} \frac{15.2}{19}$ SAS~

$.8 = .8$ ✓

Are the triangles similar?

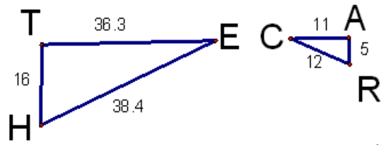
yes, AA~

$\triangle MNQ \sim \triangle MPO$



Are the triangles similar?

No



small med. lg.

$$\frac{16}{5} \stackrel{?}{=} \frac{36.3}{11} \stackrel{?}{=} \frac{38.4}{12}$$

$$3.2 \neq 3.3$$

HW
p302-304
#s 10-21, 26, 27, 32, 35, 41